SAT Report
Case Number: **P-18-0116**
SAT Date: **03/06/2018**
Created Date: **03/02/2018**
Updated Date: **03/15/2018**

CBI: Y
Consolidated PMN?

Related Cases:

Health Related Cases:

Ecotox Related Cases: [redacted]

Chemical Structure:

Concern Levels:

Type	Level	Comments
Health (1):	1	Uncerntain concerns for sensitization
(2):		
Eco (1):	3	
(2):		

PBT Ratings:

Persistence	Bioaccumulation	Toxicity	Comments
2	1	1	

Exposure Based Review:

Health: N

Ecotox: N

Routes of exposure:

Health: Dermal Drinking Water Inhalation

Ecotox: All releases to water

Fate: 2 ;

P2Rec Comments:

Keywords:

Sens-U

Summary of Assessment:

Fate:

Fate Summary:

P-18-0116

FATE: Estimations for [redacted]

[redacted]

log Kow = [redacted]

S = [redacted]

VP < [redacted]

BP > [redacted]

H < [redacted]

log Koc = [redacted]

log Fish BCF = 1.50 (32) (E)

log Fish BAF = 1.17 (15) (E)

POTW removal (%) = 90 via sorption and biodeg; OECD 301F(Mano Resp): [redacted];

MSDS (no study report, inherent biodegradation): [redacted]

Time for complete ultimate aerobic biodeg = wk

Sorption to soils/sediments = moderate

PBT Potential: P2B1

*CEB FATE: Migration to ground water = slow

Bioconcentration factor to be put into E-FAST: 15

PMN Material:

Overall wastewater treatment removal is 90% via sorption and biodegradation.

Sorption to sludge is strong based on the estimated physical-chemical properties from EPISUITE.

Air Stripping (Volatilization to air) is negligible based on the estimated physical-chemical properties from EPISUITE.

Removal by biodegradation in wastewater treatment is high based on measured data for the PMN substance (OECD 301F (Mano Resp): [redacted]; MSDS (no study report, inherent biodegradation):

[redacted]).

Destruction of the substance in wastewater treatment is complete based on measured data for the PMN substance (OECD 301F (Mano Resp): [redacted]; MSDS (no study report, inherent biodegradation): [redacted]).

The aerobic aquatic biodegradation half-life is weeks based on measured data for the PMN substance (OECD 301F (Mano Resp): [redacted]; MSDS (no study report, inherent biodegradation): [redacted].

The anaerobic aquatic biodegradation half-life is months based on the estimated aerobic biodegradation half-life. The anaerobic biodegradation half-life is projected to be greater than or equal to the aerobic biodegradation half-life.

Sorption to soil and sediment is moderate based on the estimated physical-chemical properties from EPISUITE.

Migration to groundwater is slow, mitigated by biodegradation.

PMN Material:

Moderate Persistence (P2) is based on the aerobic and anaerobic biodegradation half-life.

Low Bioaccumulation potential (B1) is based on BCFBAF model estimates.

Bioconcentration/Bioaccumulation factor to be put into E-Fast: 15.

Health:

Hazard Assessment:

Absorption: Dermal is NIL to poor, Lung is poor, GI is moderate based on p-chem properties. There is uncertain concern for sensitizaition based an equivocal response in the LLNA study.

Original Test Data Text:

PMN: Genotoxicity is negative with and without activation in salmonella and V79 cells. Oral LD50 > 2000 mg/kg, dermal LD50 > 2000 mg/kg, dermal irritation in rabbits is negative, eye irritation in rabbits is negative. In the LLNA study, the results were equivocal for sensitization, poorly dose responsive and didn't exceed the threshold stimulation index of 2.7. The stimulation indexes were 1.37, 1.51 and 1.58 at doses of 2%, 10% and 50% and an EC3 value is not possible to calculate.

Ecotox:

Test organism	Test Type	Endpoint	Predicted	Measured	Comments
Fish	96-h	LC50	1.1	[redacted]	

					[redacted]
Daphnid	48-h	LC50	1.6	[redacted]	[redacted]
Green Algae	96-h	EC50	0.44	[redacted]	[redacted]
Fish	-	Chronic Value	0.04		[redacted]
Daphnid	-	Chronic Value	0.49		[redacted]
Green Algae	-	Chronic Value	0.28	[redacted]	[redacted]

Ecotox Values Comments:

Predictions are based on the LMW [redacted] and QSARs for [redacted] effective concentrations based on 100% active ingredients and mean measured concentrations; hardness <150 mg/L as CaCO3; and TOC <2.0 mg/L.

Factors	**Most Sensitive Endpoint**	**Assessment Factor**	**CoC**	**Comments**
Acute Acquatic:		4	110	
Chronic Acquatic:		10	4	

Factors	**Values**	**Comments**
SARs	Esters	
SAR Class	Esters-poly	
	Esters	

TSCA New Chemical Category		

Ecotox Factors Comments:

Environmental hazard is relevant to whether a new chemical substance is likely to present unreasonable risks because the significance of the risk is dependent upon both the hazard (or toxicity) of the chemical substance and the extent of exposure to the substance. EPA estimated environmental hazard of this new chemical substance using the Ecological Structure Activity Relationships (ECOSAR) Predictive Model (https://www.epa.gov/tsca-screening-tools/ecological-structure-activity-relationships-ecosar-predictive-model) and hazard data on analogous chemicals. Based on these estimated hazard values from ECOSAR and hazard data on analogous chemicals, EPA concludes that this chemical substance is a high environmental hazard.

· Substance falls within the TSCA New Chemicals Category of Esters.

· ECOSAR chemical class of Esters-poly.

· High hazard based on an acute COC of 110 ppb and chronic COC of 4 ppb base on predicted values from ECOSAR chemical class Esters, based on the [redacted])

Environmental Risks:

-Risks were not identified for ecotoxicity

Testing Recommendations:

-None

SAT Chair: William Irwin
Fate assessor: Wen Lee
Ecotox assessor: Alie Muneer
Health assessor: Sailesh Surapureddi